A COMPARATIVE STUDY OF COST BENEFIT ANALYSIS OF TRADITIONAL AND E-GOVERNANCE SYSTEM IN PUNE CITY

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ABSTRACT

In today's IT (Information Technology) world technology is moving very fast and equally mind set of citizens. They want to avail civic service within less time by paying minimal cost at their doorstep. E-governance is being deployed not only to provide citizen services but for public sector efficiency purposes, improving transparency and accountability in government functions and allowing for cost saving in government administration. The present paper is an attempt to compare cost and benefits of traditional system and e-governance system and their impact on availing civic services and implementation of civic services in Pune city. Cost-Benefit Analysis estimates and totals up the equivalent value of money of the benefits and costs to the community of projects to establish whether they are worthwhile. As a case study, this paper is also highlights on successful e-governance module of Pune Municipal Corporation (PMC), 'Assessment and Payment of Property Tax' for generating revenues.

KEYWORDS: Accountability, E-Governance, Network, Transparency

INTRODUCTION

In today's IT environment, e-governance has become the essential part of a citizen's communication channel. Hence as citizens, they want to interact with the government through this channel thereby saving their time and the cost for availing governance services. Study is mainly focus on cost and benefit analysis of traditional and e-governance system of Pune Municipal Corporation (PMC) by considering various cost factors and their comparison. This study reveals-governance system reduces manpower cost and hence other costs as compared to the traditional system. e-governance system also reduces cost required for availing civic services and time including waiting time. For study purpose data is collected from PMC offices and they give following approximate figures about manpower and various cost details about traditional system and e-governance system including implementation cost of e-governance application.

COST BENEFIT ANALYSIS OF TRADITIONAL VS. E-GOVERNANCE SYSTEM

Cost-Benefit-Analysis of the e-governance project focus on various cost factors and the investments in e-governance project must look forward to the returns on the investments. This transition from traditional system to e-governance system can be very traumatic for the organization as it impacts not only the work culture, but, tends to upset the whole balance of power in the hierarchy. Traditional system requires huge manpower as compared to e-governance system. Traditional system cost includes large amount of manpower cost whereas e-governance includes various cost factors like hardware, software, development, maintenance etc. For traditional (manual) governance system requires 235 manpower / year whereas e-governance system requires 97 manpower / year for delivering civic services to the citizens. Today's traditional system manpower is calculated on the basis of current number of properties and which increase from 235 to 953 approximately. Table No. 1 focuses on various cost factors related to the traditional system and e-governance system of Pune Municipal Corporation.

Table 1: Cost Benefit Analysis of E-Governance

Cost Factors		Mode of Service	
		Traditional Cost in Lakhs	**E-Governance Cost in Lakhs**
Manpower		**953 Employees (Required*)**	**97 Employees**
Manpower Cost (Yearly)**		₹ 3655	₹ 348
Kiosks Maintenance Cost (Yearly)		NIL	₹ 132
CFC Maintenance Cost (Yearly)		NIL	₹ 144
Software Maintenance Cost (Yearly)		NIL	₹ 36
Other cost (Yearly) 10% of manpower cost		₹ 365	₹ 34
Total Cost (Annual)		**₹ 4021**	**₹ 695**
e-governance Development Cost (one time – 2003)	Hardware Cost	NIL	₹ 124
	Software Development Cost	NIL	₹ 30
Up gradation Cost (one time –2008)	Software License Cost	NIL	₹ 80
	Server (HLL + IBMand SUN Server + BSNL Lease line)	NIL	₹ 290
Total Cost		**₹ 4021**	**₹ 1219** (₹ 695 + ₹ 524One time Investment Cost)

Source: PMC Office

Note:* In 2003, for 1, 85,000 properties, 235 employees were required to handle governance in traditional system. As per the current number of properties that is 7, 50, 000, 953 employees are needed to handle governance in traditional system.

** Manpower cost is calculated by considering Class I, Class II and Class III employees who work with governance system (Manpower Cost = No. of employees * Gross salary).

A Comparative study of traditional and e-governance system reveals that traditional system requires huge manpower as compared to e-governance system. Following Figure 1 shows comparative manpower cost of traditional system and e-governance system. It clearly indicates that manpower cost of traditional system (3655) is very high as compared to e-governance system (348). The cost figures indicated in Table No. 1 are approximate costs based on data given by PMC officers orally. Operational cost of traditional system of PMC is 3655 lakhs whereas e-governance operational cost including manpower, kiosks maintenance, CFC maintenance and software maintenance costs considered and which comes to 660 lakhs. Since cost of e-governance per year was not made available to the researcher. Hence one time cost (Development cost (2003) and Up gradation cost (2008)) onwards are considered like hardware, software development and software license cost and which comes to 524 lakhs. From above cost and benefit analysis, it has been concluded that traditional system operational cost is very high (4021 lakhs) as compared to e-governance system operational cost (695 lakhs) for delivering governance services.
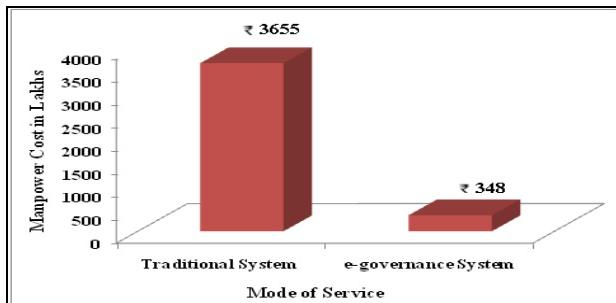
Figure 1: Comparative Manpower Cost

Hence it proves that implementation of e-governance reduced 82.69% operational cost. When we compare traditional system operational cost (4021 lakhs) with e-governance system operational cost including e-governance application cost (1291 lakhs), still operational cost of traditional system is very high and again it proves that implementation of e-governance reduced 70% operational cost and gives freedom from manual cumbersome processes to citizens and their employees and satisfies them by delivering better governance services within less cost.

SUCCESS OF E-GOVERNANCE IN 'ASSESSMENT AND PAYMENT OF PROPERTY TAX' MODULE

The benefits of e-governance range from improvement in service delivery and social welfare of citizens. When we compare revenues that are generated by both systems related to 'Payment of property tax', implementation ofe-governance services help PMC to increase their revenues at a very high proportion. In PMC office data is available only by payment of property tax e-governance module. When we compare ratio of property tax in 2003 (185000) and 2011 (750000), revenues generated are very high. Table No. 5.38 and Graph 5.29 shows the of property tax revenue from 2003 to 31st May 2012. If PMC does not implement civic services through e-governance then as per current number of properties, traditional system approximately requires 953 employees to deliver services and which is very huge manpower as compared to e-governance system (97) and it increases the manpower cost from 964 lakhs to 3655 lakhs in proportion to the number of properties. Hence it clears that implementation of e-governance reduce manpower as well as operational cost which helps Corporation to increase their revenues.

Table 2: Property Tax Revenues

Cost Factors	Mode of Service	
	Traditional System	**E-Governance System**
No. of Properties	1,85,000 (2003)	7,50,000 (2011)
Manpower	953 Employees	97 Employees
Revenues Collected	₹ 16,51,53,900/ (2003-2004)	₹ 180,42,69,838/- (2004-2005)
		₹ 240,20,64,325/- (2005-2006)
		₹ 269,08,01,076/- (2006-2007)
		₹ 356,49,17,863/- (2008-2009)
		₹ 363,14,50,478/- (2009-2010)
		₹ 430,76,72,994/- (2010-2011)
		₹ 280 crore (1st April 2012 to 31st May 2012)

Source: PMC Office & Local News Papers
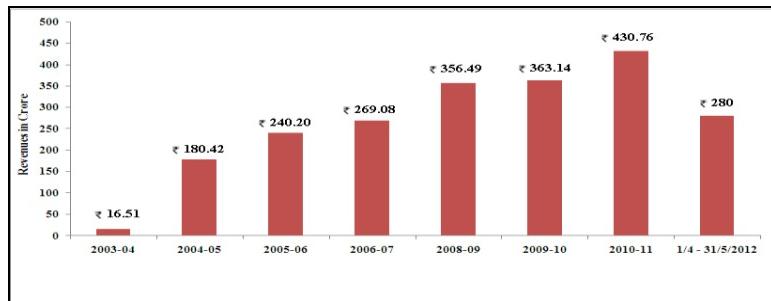
Figure 2: Property Tax Revenues

CONCLUSIONS

Manual transfer of information involves huge manpower, time loss, large paperwork and probability of human error and loss of paper. Also for the dissemination of government information needs a lot of expensive media coverage to reach the people and it increases the cost of traditional services. With e-governance, the access is wider and information is always available on the PMC web portal at a click of mouse. It helps to reduce administrative cost, to have more transparency in tendering process etc. and thereby can have the proper utilization/ investment of those funds for the benefit of PMC. It clears that implementation of e-governance services reduces manpower cost and increases benefits. Also PMC has very high Impact of implementation e-governance service for generation of revenues. Hence it concludes that implication of e-governance clear cut indicates increased in the collection of real-time system and delivers better services to the citizens at lower cost at their doorstep by saving their time.

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